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### Remarks—General

## Overcoming Raichlen and Watson

Applicant submits that the rejection of all claims on Raichlen and Watson fails to set forth a prima facie case of obviousness, as required by Section 103 MPEP 2142. This Section requires that such rejection must meet three requirements:

1. There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference(s) or to combine their teachings.
2. There must be a reasonable expectation of success.
3. The prior art reference (or references when combined) must teach or suggest all the claim limitations.

### No suggestion of motive to combine Raichlen with Watson

Applicant submits that the rejection does not meet Requirement 1 because neither Raichlen nor Watson suggests such a combination, and one skilled in the art would have no reason to make such a combination. That is,

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the fact that Raichlen shows an adjustable clamp to press a package against his cart's frame does not suggest that such a clamp can be used with Watson's cart, especially since Watson shows his own package-support device to be clamp-free, using equal-spaced frame rails to support each equal-size package with hooks. Conversely, Watson's hooks-and-rails setup could not be used with Raichlen's cart, because none of the packages would have the required hooks, nor would Raichlen's frame provide the preset size intervals of Watson's rail spacing.

**Applicant's cart solves multiple problems; references one-shot only**

Raichlen and Watson provide cart structures narrowly directed to freight and coin handling but not adaptable to shopping. Raichlen's cart moves packages in a warehouse. Watson moves duplicate boxes in a casino. Neither suggests any possibility of structurally adapting their carts to the far more complex multi-part problems solved by applicant's invention: aggregating a shopper's merchandise, gradually increasing the cart's load item by item, requiring continuous unobstructed access to the cart's open containers; renewing individual access to all the various items for check-out; re-collecting the group after check-out; transferring it to shopper's car; and unloading it at home. Structures allowing continuous access to loads carried are completely absent from both Raichlen and Watson carts. Furthermore, even if open containers were to be mounted on a combination of both carts, access would be prevented entirely by Watson's cramped spacing, or severely restricted by Raichlen's arm and adjustment mechanisms.

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By specifying dimensions of all major structures of his cart, Raichlen actively teaches away from the drastic changes necessary to combine with Watson. For example, his requirement of a package-holding arm able to extend four feet would have to be halved to afford any possibility of operability. Despite such alterations, the shopper would require an assistant to hold upper arms clear while the lower burden and arm were positioned.

#### **No Hope for Successful Raichlen/Watson Combination**

Applicant submits that the rejection does not meet Requirement 2 because the combination could not be made physically since Raichlen's adjustable clamp with its folding arm and large locking device would not fit Watson's tight package spacing. Even if several of Raichlen's clamps could be shrunk and fitted, they would be pointless because no such wide-range adjustable devices would be appropriate to Watson's identical-size cases fitted to his evenly-spaced support rails. Conversely, the combination of Watson's package-holding mechanism with Raichlen's cart would strip away Raichlen's purpose of adapting to different package sizes. Such a combination would require at least one new invention: creation of a means to add hooks like Watson's to each package Raichlen's cart handled. It would be unreasonable to expect successful package handling with such a requirement, because more work would be required to prepare a package for transport than to accomplish the transport itself. The devices holding burdens on the cart teach against each other, and work in unrelated ways.

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**Both Raichlen and Watson Deny Spine-shortening device**

Applicant submits that the rejection does not meet Requirement 3 because, even if the combination could be legally made, the combination does not show or suggest a) the locking-hinge spine of claims 78, 79, 80, 81 and 82; b) the means of reducing the height of the tall cart for compact storage, of claims 83, 84, 85, 86 and 87; nor c) the telescoping spine of claims 88, 89, 90 and 91. These claim restrictions are central to defining this invention. Without the structure to fold or telescope its tall frame into a short package after basket removal, the cart would not fit conveniently into the shopper's automobile, and thus would fail in one of its key purposes: convenience from parking lot to home.

Regarding a), various interchanged references to the spine and cart frame in applicant's specification make it clear that applicant regards his cart's tall spine as the central structure of the cart, with all other structures attached and supported as appendages. This reflects common usage of the term spine as mainstay of books and vertebrate skeletons. The specification discusses the spine's locking hinge, states its purpose as folding the cart compactly for storage in the shopper's car, and clearly illustrates in Fig. 12 how the spine of the preferred embodiment folds down to approximately half its working height.

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### **False spine analogy**

The Office Action mailed 22 March 2007, however, ignores applicant's spine descriptions. Instead this OA creates a concept not disclosed by Raichlen, "spine portion". This OA attempts to assert that because Raichlen's arm is a "spine portion", therefore his hinge and spine are structurally equivalent to applicant's embodiments, adding the declaration that this "spine portion" telescopes to allow more compact storage of the cart. Not so. Raichlen's arm is no more a portion of his cart's spine than the human arm is a portion of the human spine. Raichlen's arm is plainly a secondary appendage, whose hinge and telescope have zero ability to fold his spine for compact storage. His cart's spine is fixed in length at approximately 48 inches, according to his specification, making it about double the reasonably estimated length of applicant's folded spine. He suggests no mechanism to fold his spine. Watson likewise discloses a fixed-height cart spine, with no suggestion of either folding or telescoping the tall vertical rails to make a more compact package.

Regarding b), neither Raichlen's nor Watson's cart can be collapsed for compact storage, in that their largest elements, their frames, have no means for telescoping, folding, or shortening of their longest measurements by any other means. The longest dimensions of their carts are permanently fixed. Warehouse and casino conditions required no spine folding because they had no space restriction such as a shopper's car imposes. So workers in the art had no reason to suggest spine folding.

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Regarding c), a telescoping spine, like a folding spine, was a mechanism never suggested by either Raichlen or Watson, because their carts performed their narrow missions without regard to economy in their use of vertical space.

### **Quick-action locks absent from Raichlen and Watson**

Applicant's specification explains that his quick-action locks engage the load with a single simple sliding movement, with no requirement to operate any adjusting devices. These locks also disengage with the same simplicity, by a single straight sliding movement. Further, the specification explains that disengagement requires no lifting of the load to obtain lock release. Neither Raichlen nor Watson offers a locking device which could be fairly described as quick-action by comparison.

Indeed, Watson offers no lock at all, describing only hooks. Releasing those hooks requires not only that the entire weight of the load be borne by the user but also that he must apply additional force to elevate the load to a height allowing his hooks to clear the locking bar. His hook-over-bar setup rules out any lock-like action; no change distinguishes unlocked device from locked device. His failure to provide a lock would make his cart insecure in operation, for example, allowing the cart's bounce over a casino threshold to unhook and drop his cases. Venturing out into bumpy parking lots where applicant's cart locks function securely, Watson's failure would be certain.

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### **Raichlen's Triple-locking mechanisms**

Raichlen teaches a fixed sequence of many actions to secure each burden, using three separate, successive locking mechanisms, and a reverse repetition of that series of actions to obtain release. The quick-connect and quick-release actions required by applicant's specification are impossible with such a triple-locking arrangement.

**First lock:** His user begins by setting the height of his locking arm according to the vertical size of the load. He releases the first lock in Raichlen's locking sequence, the set pin securing the arm's slide lug, then moves the lug up or down his cart's vertical slide track, then aligns the lug hole with the track hole selected, and then inserts the set pin. Next he rotates his locking arm into alignment across the top of a load, positioning the arm usually perpendicular to the cart frame. Then the user must telescope his coaxial bars in or out to obtain an extension corresponding to the load's horizontal dimension.

**Second lock:** To release the bars for that next positioning, the user must operate the second of Raichlen's locks, by pressing a spring-loaded trigger to open the lock, and holding it open against the spring load while moving the bars into the approximate telescopic extension required. Then he releases the trigger, and then he opens or closes the telescope until the spring-loaded trigger snaps its locking finger into the nearest receiving slot on the inner coaxial bar.

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**Third lock:** Next the operator must turn to Raichlen's third lock, a complex assembly he must first disengage from its locked position remaining from this lock's previous setting. He lifts the handle on this lock's serrated-tooth cylinder against its spring action, rotates the handle down to its bottom position, releasing its cam's gear teeth from their track, then slides the locking assembly along the outer bar until the assembly's concave flex-finger plate contacts the load. The operator then again unlocks the serrated-tooth cylinder, then rotates its handle toward the load until the flex-fingers are compressed, and then releases the locking cylinder to complete the process, closing the final lock.

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Unlocking Raichlen's set of locks requires a similar series of operations, which need not be detailed here. Suffice it to say that he offers nothing remotely approaching a quick-action lock.

**Summary: Reasons Raichlen and Watson may not be combined.**

No suggestion or motivation has been shown for combining Raichlen and Watson. Their unrelated structures have nothing in common but wheels and vertically fixed frames. Raichlen's complex multi-lock system, applied to Watson's cramped, closed boxes, would produce no reasonable expectation of a successfully functioning shopping cart. Finally, any such combination would lack two important structural elements defined in applicant's specification and claims: the necessary tall, hinged spine and the necessary quick-action locks.

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**Meeting each and every objection raised by examiner:**

**Objection:** Virtual axle and wheel track lack clear antecedent basis.

**Solution:** Both terms have been eliminated from new claims submitted herewith. Furthermore, the new claims entirely eliminate the concept of ledges distinguished by length and width.

**Objection:** the bounds associated with "various" are not set forth.

**Solution:** the word has been eliminated from new claims submitted herewith.

**Objection:** partial burden-support elements unclear.

**Solution:** "partial" has been eliminated from new claims submitted herewith.

**Objection:** claims have not been identified as associated with the elected species.

**Solution:** applicant now declares that he has met the restriction requirement of Feb. 2, 2005 by electing Species I, illustrated in figures 1, 2, 6, and 12. Applicant further declares that he considers all new claims submitted herewith to be readable upon the elected species.

**Objection:** Height of the load-supporting ledges, which applicant has relied upon as enabling unexpected benefits supporting unobvious patentability, such height is not actually recited in the claims.

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**Solution:** New claim elements 78 D and 83 D recite the ledge height factor.

**Objection:** "means of partial support" needs to be clarified.

**Solution:** "partial" has been removed from the claim.

**Objection:** telescoping spine appears to contradict folding of cart.

**Solution:** folding and telescoping structures have been set entirely apart in the new claims submitted herewith.

**Objection:** "Furthermore, there is no evidence that the use of ledges and supports at a height similar to that of a checkout counter and/or a table has resulted in a result which is unexpected."

**Solution:** Among all of the objections raised in the latest Office Action, applicant considers this one to most strongly deny the main facts. Fact: the description summarized below of how this cart works, headed "Surprising Weight-Transfer Action by Ledges," details a new and useful method of shopping cart operation, which has never been seen before. Fact: there is no cart anywhere, in literature of the art or in the marketplace, approaching either the structure or the performance of our preferred embodiment. Fact: the novel structure of this cart performs a complex group of useful functions, as compared with much simpler functions performed by Watson and Raichlen.

Applicant respectfully submits that the first of these facts alone, the weight-transfer action, constitutes in itself ample evidence of the

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unexpected. There was no way to predict this action during the assemblage of baskets, cart, and means of mounting baskets upon the cart. This new kind of function came to light only after construction and operation of the prototype. Applicant sees this sequence of development events not only as evidence but also as positive proof of an unexpected result, and therefore patentably unobvious.

**Objection:** light-metal alloy tubing such as aluminum is “notoriously old and well known”.

**Solution:** Agreed. But no claim in this application relies upon such tubing as being necessary to defining the invention over any others. On the contrary, mention of this material within a listing of many possible alternative construction materials makes this non-reliance clear. Applicant’s reference to light-metal alloy tubing is believed to be merely a perspective-extending detail, performing its proper duty as a component of dependent-claim reification of the broader cart definition contained in the main claims. Therefore this objection appears to have no purpose, and to require no kind of corrective action by applicant.

**Objection:** “Watson teaches a carrier which can accommodate a plurality of baskets (31, 32, 33) having hinged ends, . . .”

**Solution:** Not so. Watson does not teach hinged ends of his containers. If he had, such ends would have provided access to the merchandise carried,

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and thereby added an element of similarity to applicant's containers, which provide necessary continuous access to container contents during transport. Instead, Watson teaches the opposite, that is, here again he teaches directly away from the proposed combination. His hinged lids, which he numbers 33, are designed not only to be closed but also to be fastened over the tops of his containers, thus preventing any access during transport. Furthermore, the close vertical spacing of his containers adds a further barrier to any opening of lower containers during transit.

### **Specific distinctions rendering each claim patentable**

**Objection:** applicant has not pointed out the claim distinctions supporting patentability with respect to the applied prior art.

**Solution:** applicant will here proceed to point out the specific distinctions believed to render each component of each claim patentable over any applied references, taking claims in the order of listing.

**Claim 78:** Regarding references in 78 A, B, and C to a plurality of merchandise containers, a plurality of quick-action locks, and a plurality of ledges: each reference distinguishes over Raichlen, who never deals with more than one merchandise container, one lock, or one ledge. He never suggests any purpose for having more than one of any of these on a cart. If a skilled artisan of the time could have discovered a reason to seek any such purpose and attempted any such multiplication, he would have learned after

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making many laborious alterations in Raichlen's long telescoping arms and bulky lock adjusters that the resulting unwieldy assemblage would not serve the intended purpose. Both arms and locking assemblies would interfere with other containers.

Neither Watson nor Raichlen have any of the necessary quick-attach and quick-detach locks able to function as described in applicant's specification. The hooks Watson uses to crowd his closed boxes onto a cart prohibit that lock-releasing function, which is essential to the new and useful method of handling burdens made possible by applicant's combination of ledges and locks. That is, when a burden is released by applicant's quick-detach lock, that minor share of the burden's weight formerly restrained by the lock now transfers to the shopper's hands, while the majority of the burden's weight remains on the ledge. Thus Watson lacks not only the ledges of claim element C but also any resemblance to the locks disclosed in claim element B.

#### **Combination would require several new structures**

An additional obstacle to any attempt to fit Raichlen with elevated ledges: losing its footplate, the cart can no longer be parked in its useful upright position. Alternatively, if his footplate were retained, an additional ledge would have to be added a short distance above it, creating a useless space too small for the packages Raichlen handles. A third kind of new construction, equally impractical: after adding a plurality of elevated foot plates in imitation of my structure, the combination cart proposed by

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Examiner could have its necessary parking capability restored by devising an attachment for Watson's two parking legs somewhere on the combination cart. All of these alterations require much new structural development, which then produces relatively unusable structures.

**78 D:** Turning now to positioning of the ledges upon the cart, this part of the claim distinguishes over Raichlen by setting applicant's bottom ledge above the floor to enable its fulcrum and slide and guide functions. Raichlen's traditional footplate prohibits those functions. Watson falls even shorter in comparison. He offers zero support for transfer of heavy containers to or from the cart, requiring the user not only to lift full weight but adding the burden of elevating each one to achieve hooking or unhooking. Raichlen's only ledge is the same one unvaryingly kept in its place by generations of hand trucks, a plate positioned flat on the floor and therefore unusable as a provider of fulcrums for the kind of weight transfers defined as essential in this application. It may be useful to review those in somewhat more detail here:

### **Surprising weight-transfer action by ledges**

The ledge supports most of a basket's weight after release of the sliding lock. A minor share of that weight transfers upon lock release to the shopper's hands. The shopper then applies additional muscle to slide the basket along the ledge in the desired direction, tilts it upward or downward

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toward the checkout counter, car-trunk sill, kitchen counter or kitchen table – all while using the ledge as partial-weight-supporting guide and fulcrum.

The result of levering baskets upward and downward from cart to another surface, and from surface to cart, is that the user is spared from ever lifting the full weight of a loaded basket. This bridging action lets our big baskets first cantilever out from the ledge fulcrum, then connect the basket's outboard end with the destination surface, and finally transfer basket entirely to tabletop or car trunk.

Most tall carts, including Raichlen's and Watson's, are designed with structures requiring strong men to carry the full weight of loads to and from the cart. Our carts protect all shoppers from that full lifting, which could not be accomplished without our fulcrum/ledges. This invention shows its weight-easing ability most dramatically when a heavily loaded upper basket, its bottom at about kitchen-table height, is transferred from the cart parked beside the table. With lock released and basket tilted on its fulcrum ledge, the basket slides almost horizontally from cart ledge to table top, with most weight borne by cart and table throughout the transfer.

**78 E:** The hinged spine claimed here distinguishes clearly over Raichlen and Watson. They both disclose carts with their longest upright frame members set at fixed length, containing no mechanism for shortening.

**Claims 79 to 82:** These claims further narrow the structure defined in main Claim 78, by listing many details from the specification. Applicant submits that they are patentable under the same terms as the parent claim.

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Claims 79, 80, 81 are quite similar to those contained in previous amendments to this application. However, Claim 82 is entirely new, extending the range of cart definitions to various components covered in the specification and important to one or another embodiment, but not previously included in claims.

**Claim 83:** Sub-paragraphs A and E establish general means for the critically important folding capability defined in structural terms at 78 F. That capability and structure are both absent from Raichlen. Watson, providing only a folding action only for his lateral braces, shows in his Fig. 6 that his cart becomes substantially taller in its folded posture, a teaching directly opposite to the structure defined in this application.

**83 B, C, D, and E:** These sub-paragraphs distinguish over the cited combination in the same manner as 78 B, C, D, and E, using means rather than specific structural terms. The structural distinctions set forth above are submitted by applicant as equally valid being restated in means terms in Claim 83.

**Claim 84, 85, 86 and 87:** these support their main claim in a manner parallel to that of Claims 79, 80, 81 and 82. We submit they are equally distinctive and patentable.

**Claim 88:** This third independent claim addresses the wide-frame embodiment shown in applicant's Fig 2, as opposed to the other carts

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Examiner has defined as within Species I. This cart's principal structural departure is its telescoping frame, set forth at 86 B, a component entirely unknown within all embodiments of Raichlen and Watson. This claim represents applicant's further response to Examiner's objection regarding apparent contradiction between cart folding and telescoping structures.

#### **Additional Evidence of Unobviousness**

**Unrecognized problem:** No previous shopping cart has been structured to perform all the shopper's necessary work. Some carts merely collected purchases. Others provided detachable containers for transfer to the shopper's car. Some carts could be folded for transport home. None was planned to do all of those things, and to perform the additional function of allowing easy reattachment of the containers at home for delivery into the kitchen. The set of problems solved by applicant's cart was never defined as a proper mission for a cart.

**Crowded art:** Hundreds of shopping carts appear through decades of records in the United States and foreign patent registries. After so many failures, leaving the present marketplace poverty-stricken in its offering of carts to shoppers, even if applicant's cart were judged to be only a small advance, it should be given added weight toward patentability due to proven need for advancement of the art.

**Never implemented:** If applicant's cart were in fact obvious, then those skilled in the art surely would have implemented it by now. Their

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failure to do so, despite its ability to serve shoppers better, proves that it was never obvious to any of those skilled artisans.

**Long-felt, unsolved need:** Most shoppers, particularly those physically handicapped, have long felt a need for better shopping carts. They have sensed that store carts are needlessly heavy, and awkward to maneuver on small and often balky wheels. Easier loading, made possible by applicant's high-level baskets as opposed to the typical store's knee-level cart basket, is especially welcome for elders of limited strength for lifting merchandise, and limited ability to bend their backs to transfer loads from high store shelves to low baskets. Applicant's provisions for much easier transfer to their cars are also especially important to the handicapped and elderly.

**Strained interpretation:** Hindsight is the only way, applicant respectfully submits, in which those skilled in the art could create any sort of shopping cart by combining carts so widely different in structure and function as Raichlen and Watson. Each is complete and functional in itself, so there would be no reason to use parts from or add or substitute parts to any reference. The two take different approaches to moving burdens, teaching away from each other, so it would not be logical to combine them.

**Multiplicity of Steps Required:** The combination suggested requires a series of separate, awkward combinative steps that are too involved to be considered obvious. Raichlen's warehouse-scale telescoping arms would have to be drastically shrunk, together with the myriad complex small parts of each of his three locking setups. Watson's containers require not

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only changes of size and construction material, but also removal of their covers and locking flaps. Mounts for supporting ledges would have to be designed, while somehow providing room for vertical and lateral movements of Raichlen's arms.

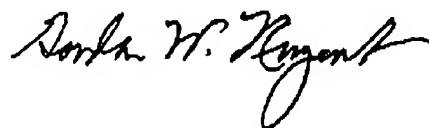
### Thanks to Examiner

Looking back across three years and six amendments to this application, this pro se applicant wishes to express his appreciation for what he believes to have been unusual patience displayed by Examiner. Viewing the huge gulf between the original claims of April, 2004 and the present, applicant realizes that Examiner's necessary series of rejections, accompanied by his constructive suggestions for improvement, have taught applicant much about how to proceed through the many complexities of patent prosecution by an outsider.

### Summary

Applicant submits that all claims have been rewritten to render them allowable over the cited references. Therefore applicant now solicits reconsideration and allowance.

Very respectfully,



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